

12-6-06-J

BUILDINGS AND ROADS.
CIVIL WORKS.

Marine (1896) Department

8/9/05

G.O., No. 652

DATED 28⁵ Sept. 1896.

[Despatch Abstract.]

Port of Canada: P. W. Bros: adopting
the recommendations of the Chief Engineer
in the matter of the improvement of the
—, Comd to the P. P. officer.

Removed from 25/10/01
8 16-10-96

1/10
[3/10]

Governor (1000) of Madras.

CURRENT No.

PAPERS.

FURTHER PAPERS.

Order 652 Marine 8 25 Sept 1856
Communicated To From
the Presidency Lab officer The Public Works department

24/8/86

No. 2445 w.

The PPO ✓
L.S. Q

Dated 24th August 1896

Received 9th September 1896

Enclosures

Spare copies

SUBJECT.

SUBJECT.
Port of Bocanada
Orders adopting the recom-
mendation of the Chief
Engineer in the matter of the
improvement of the —

12-6-06.

BUILDINGS AND ROADS.
CIVIL WORKS.

Government {1896} of Madras.
PUBLIC WORKS.

Recd. } Enclosures
Regd. } 1896. Spare copies

G.O., No. 2445 W., 24th August 1896.

AUGUST.

Port of Cocanada

Orders adopting the recommendations of the Chief Engineer in the matter of the improvement of the —.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following papers :—

From J. C. LARMINIE, Esq., M. INST. C.E., Superintending Engineer, Public Works Department, to the Chief Engineer, Public Works Department, dated 10th April 1896.

In accordance with the instructions conveyed in Proceedings of Madras Government, No. 1039 of 21st March 1896, I have the honour to submit the following report.

I landed at Cocanada on the morning of 31st March and left in the night of 2nd April. During my stay there, accompanied by the Port officer, I carefully examined the mouth of the river and the part of the bay surrounding it. I also inspected the coast line between Cocanada and the Vakalapudi lighthouse and rode over the line, which a new canal to that point, if excavated, would follow.

2. Questions connected with the port of Cocanada have, from time to time, occupied the attention of Government for many years past, the present instance arising from a proposal made by the Cocanada Port officer to still further lengthen the northern training groyne of the river by 1,000 feet (*vide* papers * accompanying the Presidency Port Officer's letter No. 695/73 G. of 28th February 1896).

3. Off and on during the period 1870 to 1882, I had many opportunities of becoming familiar with Cocanada and its bay and I have been in charge—as an Assistant Engineer—of the dredging work, which it has always been necessary to carry, on and at no time during the above period, can I remember so serious a block across the river opening, as now exists, involving a considerable detour of the navigable channel to the southwards (see tracing accompanying the Presidency Port Officer's letter).

4. I have no doubt whatever that the present state of affairs is, in a great measure, if not altogether, due to the extension of the northern training groyne, without a corresponding advance of the southern.

5. So long as the ends of the two walls remained nearly in line, the scour of the ebb tide kept a fairly direct channel open, aided by dredging.

6. Now, the northern training groyne being some 1,800 feet in advance of the southern, the scouring effect of the ebb tide on where the bar invariably forms is completely lost and consequently there is no opposing force to the advance of sand round the end of the north wall, while at the same time mud is constantly washed in from the south along the line which the south extension would close.

7. That the ebb tide scour is a force at our disposal, by no means to be despised, is proved by the fact that all the way down the river and to a short distance below the termination of the south wall, a deep channel is maintained, and doubtless could the same volume of water be concentrated in an opening about half the present width of the river, it would be sufficient to check the formation of a bar. But to narrow the opening would probably reduce the tidal volume too much.

8. I am most decidedly of opinion that on no account should the northern wall be prolonged, until the southern has been extended to an equal length, a work which should be at once put in hand, but it will have to be carried out under difficulties which would have been avoided had both walls been carried on simultaneously, *e.g.*, the direct mouth of the river being now completely closed by a hard sand shoal, which extends inwards for some distance, it will be necessary, when constructing the southern wall, to leave an opening at point A* (see tracing) for boats to pass through.

* Marked in blue pencil.

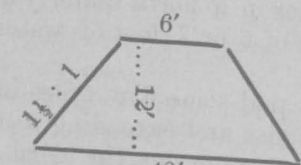
And this opening cannot be closed until a passage has been excavated by manual labour and dredging through the sand bar at B.*

9. Once this cut has been sufficiently deepened to admit of the closing of gap A, its gradual improvement will no doubt be aided by the ebb scour and here I would bring to notice the urgent necessity there exists for a new and improved dredging plant for Cocanada. The present plant consists of two of Priestman's grab dredges, capable of lifting $1\frac{1}{2}$ cubic yard of mud respectively (at each lift), a steam tug and a number of wooden punts.

10. The Priestman's grabs are best adapted for working in canals—locks and along wharf walls, &c., &c., they are (as stated by the Port officer) quite incapable of excavating sand, so their utility for work on the Cocanada bar calls for no further comment. In this connection see Cocanada Port officer's letter No. 972 of 2nd December 1895 to the Chairman, Conservancy Board.

11. They are now employed in keeping a passage open through the mud shoals, which, had the southern training wall been extended *pari passu* with the northern, would most probably have been altogether excluded from the river mouth.

12. It is nearly 14 years since last I was in Cocanada and during that period the advance of commercial activity is most striking,† aided as it is, no doubt, by the construction of the railway, what was formerly a clear open space along by the north wall between the B.I.S.N. office and the Old Lighthouse is now crowded to an inconvenient extent by bags of all kinds of produce, which owing to the delay caused to shipment, by the present state of the river mouth, is often detained *in situ* much longer than is desirable, in trade interests.



32 cubic yards per yard run.

13. So much for the present state of affairs: the immediate relief of which is indicated in paragraphs 8 and 9 and the probable cost, allowing for the section of wall as sketched, will be fully Rs. 30,000. The top of the wall may be placed at high tide level and a rate of Rs. 1-10-0 as allowed by the Port officer has been taken.

14. Rupees 14,000 have already been sanctioned for the extension, by 1,000 feet, of the southern wall (G.O., Financial, No. 568 of 2nd August 1895), leaving a balance of Rs. 16,000 still required.

15. unds for the provision of one of the newest patterns of sand pump dredgers are also urgently required.

16. There now remains for consideration some scheme for the ultimate improvement of the port, to place it on a footing more commensurate with its commercial importance, and in this connection any idea that Cocanada bay generally is deteriorating, or is nearly played out, should be dismissed.

17. A comparison of the charts of 1875, 1882 and 1891 clearly shows that, considered in the light of communication with the anchorage from the town, the bay has steadily improved, the mere fact of more modern steamers being obliged to anchor a mile or two further to the north is quite immaterial.

18. This improvement of the bay is noticed in a memorandum of the Superintendent of Marine Surveys printed with G.O., Marine, No. 426 of 26th August 1880.

But glancing at the charts, it had struck me forcibly, before ever seeing the memorandum referred to, and its importance in deciding between alternative schemes for improvement cannot be overrated.

19. The charts show that as Point Gódávri has extended northwards, so the bay to west and south-west of it scours out. From 1875 to 1882 the change is marked, and from 1882 to 1891 there is further improvement and particularly in the direction which affects the mouth of the Cocanada river, *i.e.*, the advance towards it of the one fathom contour.

20. In 1875 the nearest point of this contour was fully 2 miles from the river mouth. In 1891, the distance had decreased to something over a mile, and at present, as far as I could ascertain by rough soundings, it is well within the mile. The southern part of the bay, which in 1875 exposed extensive mudflats at low tide, is now a sheet of water of from 1 to 2 feet in depth.

21. One of the alternative schemes for the improvement of the port being the extension of the training walls in a north-easterly direction to the one fathom contour, is sufficient apology to this somewhat lengthy allusion to the subject.

22. The explanation of the improvement is simple. As Point Gódávri extends northward and consolidates, it acts on the bay within, exactly as may often be seen in rear of groynes along a river. The tides flowing from the east combining with the long shore currents from the south, impinge along the point producing a circular current around the bay, and it is this very current, which, while generally beneficial, has no doubt aided the accumulation of sand which now overlaps the end of the northern training wall.

23. From 1882 to 1891 Point Gódávri has not extended much to the north, but it appears to have consolidated and increased in height and from what Captain Wicks tells me, I should imagine that it is now near its northern limit, so much will depend on the behaviour of the Gódávri further south, in forming new escapes to the sea, to the eastward.

24. The following three proposals have, from time to time, been made for the improvement of the port, or more correctly speaking to improve the means of communication with the shipping:—

Alternative schemes.

First.—By the extension of the training groynes in a north-easterly direction sufficiently far, to secure a depth at their termination of 6 or 7 feet of water at low tide.

Second.—By the excavation of a new line of canal some five miles in length taking off from the river a little west of the old lighthouse and extending to near the Vakalapudi lighthouse, opposite to which the present anchorage lies, the canal opening should be carried by groynes into 7 feet of water and a boat basin at Vakalapudi would, it is stated, be absolutely indispensable.

Third.—By the construction of a screw pile pier at Vakalapudi, connected with the town by a line of rail.

25. I have forwarded a memorandum regarding these three alternatives to the Chairman of the Gódávri Ports Conservancy Board, with a view to the opinions of members being ascertained. But I understand that there are insuperable objections to the alternative of a pier, *e.g.*, that no ordinary pier would suffice for the trade of the port, that all the storage godowns are in Cocanada and that additional transshipment charges would result.

26. In regard to the second alternative the cost of excavating a canal to a depth of even 6 feet below low tide level and large enough to accommodate the boats in use through the soil prevailing, would be excessive and further that the difficulties to be expected in keeping the canal mouth open, in a situation so exposed to the north-east monsoon, would be very great.

27. Quite apart even from monsoon considerations, groynes constructed at this point would inevitably cause an advance of the coast line, so there would certainly be as much trouble and expense in keeping the mouth open as is now incurred at the present mouth.

28. So from these considerations and keeping well in view the improved condition of the bay (paragraphs 16 to 20), I am strongly disposed to advocate the first alternative (extension of the training walls to deeper water). This would probably reduce the amount of dredging required, but it should be borne in mind that this can never be entirely dispensed with and the early provision of an efficient dredger is of much importance.

29. Every Engineer who has considered the subject from Mr. Robertson in 1871 followed by General Sankey and Mr. Walch have advocated this course (i.e., the extension of the groynes to north-east). See paragraph 35 of General Sankey's note printed with G.O. (Marine), No. 426 of 28th August 1880, also Mr. Walch's note printed with G.O. (Marine), No. 96 of 23rd March 1892—the latter is still very pertinent, only the distance now to which groynes need be extended is much less than he supposed.

30. When the southern training groyne has been extended 1,800 feet (as indicated in paragraphs 8 and 13), an opportunity will again be afforded of observing the capabilities of the ebb tide scour in keeping the bar clear, in a direct line to the eastward. From that termination any further extension of the groynes should be in about a north-easterly direction; probably an alignment between north 50° and north 70° east will be found most suitable.

31. In regard to the provision of a suitable dredger for Cocanada, I would invite a re-perusal of letter No. 30 of February 22nd, 1892, from the Vice-Chairman, Górávari Ports Conservancy Board, to the Chief Secretary to Government—printed with G.O. (Marine), No. 96 of March 23rd, 1892. I agree, generally, with Mr. MacNab, but do not consider a *Hopper* dredger the most suitable and, as already stated, I quite dissent from any proposal to extend one groyne without the other.

32. All the papers forwarded with Proceedings of Madras Government, No. 1039 W. of March 2nd, 1896, are herewith returned, only the charts of 1875 and 1892 were received, those now herewith of 1857 and 1882 have been lent to me by the Port officer of Cocanada, that of 1857 is interesting, as showing the striking changes that have taken place since then.

No. 426.

True extract forwarded to Mr. J. C. Larminie, Superintending Engineer, Coimbatore Circle, on special duty, for information, with reference to his memorandum, dated 1st April 1896.

COCANADA,
10th April 1896.

(Signed) G. WICKS,
Deputy Conservator of the Port.

ENCLOSURE.

EXTRACT from the minutes of a special meeting of the Górávari District Ports Conservancy Board, Cocanada, held on the 9th April 1896.

Read memorandum received from Mr. J. C. Larminie, Superintending Engineer, Public Works Department, regarding the three alternatives feasible as a remedy to the existing block at the mouth of the Cocanada river. Also Mr. Robertson's report and Mr. Walch's note on the subject.

The Board would prefer to postpone coming to a decision as to which alternative should be adopted until it has Mr. Larminie's detailed report before it and it has had an opportunity of consulting several gentlemen with long experience of the port, who are at the present moment absent at home. The question is one of such vital importance that the Board is most averse to deciding it in anything like haste.

(Signed) V. A. BRODIE,
Chairman, Górávari Dist. P.C. Bd.

Forwarded to the Chief Engineer, with reference to paragraph 25 of report on the Cocanada river.

This conclusion of the Board need not, in any way, delay the measures which should be at once adopted to lengthen the southern training groyne. Future alternatives will be decided practically, to a great extent, by the results achieved thereby.

(Signed) J. C. LARMINIE,
Superintending Engineer, IV Circle.

21st April 1896.

Note by the Chief Engineer, Public Works Department.

It is evident that the condition of the Cocanada port is so serious as to require immediate attention.

2. The tracing herewith shows the state of affairs, and it is proposed by the Port officer to extend the northern groyne, and if the sand banks at B were removed by dredging or otherwise, this would probably be the quickest way of opening out the channel to the sea, but the effect would only be very temporary and I agree with Mr. Larminie that both groynes should be extended the same distance, as the freshes in the river and the tidal action will then have more effect.

3. In my opinion the work to be done consists in extending the north groyne by 1,000 feet and the south by about 2,800 feet, which will bring it out the same distance as the northern one, and removing the sand bank at B.

4. The cost of extending the northern groyne will be about Rs. 23,000.* The cost of extending the southern groyne is given by Mr. Larminie at Rs. 30,000, which I think is too low an estimate; and Rs. 50,000 is more like the figure. The cost of removing the bank at B cannot be accurately estimated, but I believe the total cost of the proposed works will not be less than one lakh, out of which Rs. 14,000 have already been sanctioned for the extension of the south groyne.

5. Though I strongly advocate the carrying out of these works at once to prevent the port being altogether closed, I do not, for a moment, anticipate that the remedy will be permanent. I believe it will be found necessary to periodically extend the groynes, and even then it will be difficult to keep the passage open; for, owing to the exposed situation, dredging cannot be constantly carried on.

6. Even if the groynes were carried into deep water, which would be very expensive, as they would have to be made very strong to resist the action of the waves, I still believe a bar would form eventually at the entrance: the Madras harbour is an example of this.

7. The state of the Cocanada port has occupied the attention of Government for many years past, and the correspondence on the subject is very voluminous. In 1871 the port was inspected by a Harbour specialist, Mr. Robertson, who stated that if the groynes had ever to be lengthened, they should be carried a little seaward, by which he meant north-east; this would no doubt be an improvement and can be done when the proposed extensions are carried out, but I do not think it will prevent the formation of a bar or obviate the still further extension of the groynes.

8. In 1880 Colonel Sankey, the then Chief Engineer, inspected the port and suggested the further extension of the groynes and he estimated that the cost would be about 3½ lakhs, but he stated that this sum would not be required all at once as the work of extension might go on gradually; he therefore evidently anticipated a constant expenditure, but I see no reason why he should have assumed 3½ lakhs to be the limit.

9. In 1885 the port was inspected by Colonel Shaw-Stewart, then Chief Engineer, and he expressed his opinion that "it is by no means certain that the extension of the groyne will exercise any permanent effect on the depth of water over the bar."

The bar will, of course, be forced further into the bay, but whether a better depth of water will be secured is far from certain." In these remarks I quite concur.

10. In 1891 Mr. Walch, Chief Engineer for Irrigation, wrote as follows:—

"The result of the work hitherto done has been, as anticipated, that the pushing of the bar" by so much further out has not given any relief, and, indeed, judging from the survey of the "approaches to Cocanada" which accompany this file, matters have been made worse by the rapid growth of the sand deposit at the back of the north wall, which has now overlapped that wall and is shoaling the entrance; "and in a letter printed with the same Proceedings,"

* G.O., No. 96, Marine, dated 23rd March 1892. the acting Presidency Port Officer states that to extend the groynes to the one fathom line would cost Rs. 4,82,500 and there would, besides, be the cost of dredging; while to dredge a channel (without groynes) 100 feet wide and 2 feet deep would cost Rs. 41,800 in the first instance and an additional outlay of Rs. 20,000 every second year to keep the channel clear; personally, I doubt whether the latter figure is anything near what would be required as any unusually rough weather might fill up the dredged channel completely.

11. I have quoted all these opinions to show that all good authorities were aware that the continued extension of the groynes, together with dredging, would be necessary, though some seemed to think that there would be a limit to the extension required; but in my opinion there is none, and the experience of the Madras harbour groynes confirms this opinion. I therefore wish to point out that though I advocate that the extension I have proposed in the beginning of this note should be carried out at once, I only do so on the understanding that it is urgently required for the purpose of keeping the channel open for the next three or four years till other arrangements can be made.

12. The other arrangements proposed are—

First.—A canal to Vakalapudi mentioned in clause 2, paragraph 24, of Mr. Larminie's report.

Second.—The construction of a pier at Vakalapudi and a line of rail from thence to the town.

The first of these proposals may, I think, be for ever abandoned as the difficulty and expense of keeping the entrance of the canal into the sea open would be as great, if not greater than keeping the present channel open.

In Colonel Sankey's report, dated 9th August 1880, No. 295, paragraphs 13 to 16, the objections to such a canal are fully expressed.

13. The second proposal is the one I advocate. I do not believe in the insuperable objections mentioned in paragraph 25 of Mr. Larminie's report, and I see no reason why a pier suitable for Cocanada could not be erected; from the pier, goods could be taken direct to all parts of the country and *vice versa*, and with the money that will still have to be expended on groynes and dredging any number of storage godowns, &c., could be built; moreover, the railway line from the pier could be taken along the front of the existing godowns, so that, probably, only some covered sheds would be required near the pier.

The cost of the Tuticorin pier was Rs. 1,70,057 † and the one at Cocanada may be taken to be about the same, while it will have been seen that the cost of extending the groynes is estimated by

Colonel Sankey at 3½ lakhs, and by the Presidency Port Officer at Rs. 4,82,500, besides the constant expense of dredging.

There is only one objection that I can see to the proposal to have a pier and line of rail, and that is, if it is considered necessary to have a boat basin, I should say that in such a sheltered position it is not essential, but I can give no definite opinion on the subject, and should those who are best competent to judge say that a boat basin must be constructed, then I am afraid the scheme must fall through as the keeping open the entrance would be an expensive and difficult matter.

14. Mr. Larminie states that he has forwarded a memorandum regarding the three alternatives to the Chairman of the Góðavari Ports Conservancy Board with a view to the opinions of the members being ascertained. When these opinions are received they will have to be carefully considered from all sides of the question, as it is very probable there will be considerable opposition from some quarters to moving the port to Vakalapudi, 5 miles distant.

15. I have called for a statement showing the expenditure on groynes and dredging for the last twenty years, and then it can be decided whether it is advisable to go on expending large sums on works the result of which is uncertain, and when, after all, it may be found necessary to abandon the port or whether it would not be better to do so at once.

16. It is satisfactory to learn that the Cocanada bay generally has improved as shown in paragraphs 17 to 23 of Mr. Larminie's report.

17. As regards the provision of suitable dredgers for Cocanada, I would remark that if my proposals for the temporary improvement of the port only are to be carried out, it is possible that new dredgers and plant may not be required, as perhaps the sand accumulation can be removed by manual labour assisted by the two Priestman's dredgers now available, and perhaps also by the *Wenlock*, but if it is proposed to keep on extending the groynes and dredging out a channel, it will be necessary to obtain more suitable and powerful dredgers.

18. As regards the *Wenlock*, she has already been tried at Cocanada with very unsatisfactory results, and if it is decided not to abandon the port, new plant must be got, the cost of which will probably be over two lakhs.

19. What I suggest therefore is—

First.—That the Superintending Engineer, I Circle, be ordered to put the work of extending the south groynes—estimate Rs. 14,000 already sanctioned—in hand at once, leaving gap at A open.

Second.—That he be directed to at once prepare and submit for sanction an estimate for extending the northern groyne by 1,000 feet and the southern groyne by such a length (about 1,800 feet) as will take it the same distance out the sea as the north groyne.

Third.—That the estimate should include the excavation of sand and mud in the line between the two proposed groynes.

Fourth.—That he should report if this sand can be removed by manual labour assisted by the two dredgers now in use, and that if not, he will submit an estimate for the plant required.

Fifth.—That the Port Conservancy Board should be again called on to give a very early opinion on the alternative plan of a pier at Vakalapudi and a line of rail from thence to Cocanada.

P.S.—Since writing the above an answer to Mr. Larminie's letter to the Conservancy Board referred to in paragraph 14 has been received to the effect that the Board desires to postpone giving an opinion till it has had an opportunity of consulting several gentlemen of long experience of the port who are now in England.

OOTACAMUND, (Signed) D. McNEIL CAMPBELL, Col., R.E.,
28th April 1896. Chief Engineer.

From the Examiner, Public Works Accounts, dated 1st May 1896, No. 1222 D./A.

From Commander H. A. STREET, R.I.M., Presidency Port Officer, Madras, to the Secretary to Government, Marine Department, dated 15th May 1896, No. 166 G.

With reference to memorandum of Government, No. 209 E., dated 20th April 1896, I have the honour to forward, herewith, a statement showing expenditure incurred during the last twenty years in connection with the Cocanada harbour.

ENCLOSURE.

STATEMENT showing the expenditure incurred in the Marine Department during the last 20 years in connection with Cocanada Harbour.

Years.	Groynes.			Dredging.			Grand Total.
	New works.	Repairs.	Total.	Plant.	Working.	Total.	
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
1876-77	3,000 0 0	..	3,000 0 0	..	7,893 8 7	7,893 8 7	10,893 8 7
1877-78	..	..	..	..	4,673 15 0	4,673 15 0	4,673 15 0
1878-79	..	..	..	..	5,467 6 9	5,467 6 9	5,467 6 9
1879-80	..	..	..	..	4,568 13 0	4,568 13 0	4,568 13 0
1880-81	..	..	..	..	5,689 12 6	5,689 12 6	5,689 12 6
1881-82	..	..	..	..	6,433 7 4	6,433 7 4	6,433 7 4
1882-83	..	..	..	..	6,099 2 5	6,099 2 5	6,099 2 5
1883-84	..	3,333 0 0	3,333 0 0	..	5,332 8 2	5,332 8 2	8,665 8 2
1884-85	12,776 15 2	..	12,776 15 2	1,673 0 0	3,738 0 1	5,411 0 1	18,187 15 3
1885-86	11,962 13 2	1,094 14 2	13,057 11 4	3,589 10 5	4,761 4 0	8,350 14 5	21,408 9 9
1886-87	5,052 7 5	..	5,052 7 5	..	4,487 0 8	4,487 0 8	9,539 8 1
1887-88	8,703 0 3	..	8,703 0 3	..	3,911 1 3	3,911 1 3	12,614 1 6
1888-89	..	687 2 6	687 2 6	5,148 4 0	5,002 11 7	10,150 15 7	10,838 2 1
1889-90	22,032 0 0	..	22,032 0 0	284 0 0	4,836 0 0	5,120 0 0	27,152 0 0
1890-91	..	773 0 0	773 0 0	1,829 0 0	4,868 0 0	6,687 0 0	7,460 0 0
1891-92	..	1,044 9 1	1,044 9 1	1,875 15 4	7,518 15 11	9,393 15 3	10,439 8 4
1892-93	..	875 1 4	875 1 4	1,158 6 3	25,016 8 6	26,174 14 9	27,050 0 1
1893-94	..	957 6 6	957 6 6	1,331 12 0	11,981 4 9	13,313 0 9	14,270 7 3
1894-95	14,904 8 0	866 3 8	15,770 11 8	3,669 7 8	7,901 12 10	11,571 4 6	27,342 0 2
1895-96	28,276 13 0	952 4 11	29,229 11 11	4,945 9 8	10,278 6 2	15,223 15 10	44,453 1 9
Total	1,06,708 9 0	10,588 10 2	1,17,297 3 2	25,505 1 4	1,40,449 11 6	1,65,954 12 10	2,83,247 0 0

* Includes Rs. 18,787-15-8 being cost of machinery of the dredger "Connemara" and building a wooden barge for the reception of the same.

† Includes expenses of the "Dredger Wenlock," viz., Rs. 18,792-2-2.

‡ Do. do. do. Rs. 2,617-12-6.

ORDER—No. 2445 W., dated 24th August 1896.

The papers recorded above relate to the port of Cocanada, the deterioration of which is giving cause for anxiety. After careful consideration of the matter, His Excellency the Governor in Council resolves to adopt the recommendations of the Chief Engineer, which are summarised in paragraph 19 of his note, dated 28th April 1896.

2. The Superintending Engineer, I Circle, will accordingly proceed at once to extend the south groyne in accordance with the estimate of Rs. 14,000, already sanctioned, leaving open the gap at the position marked A on the plan.* He will also submit, as soon as practicable, the estimates and report indicated in clauses 2 to 4 of this paragraph of the Chief Engineer's note.

* Tracing accompanies.

3. The Port Conservancy Board will be called on in the Marine Department for the required expression of opinion, to be submitted as early as practicable, on the alternative plan of a pier at Vakalapudi and a line of rail thence to Cocanada.

4. The measures proposed by the Chief Engineer will, it is calculated, cost about Rs. 1,00,000, and the question of providing this amount must be considered. It is observed that the port had on the 1st April 1896 an opening balance of Rs. 44,000 at its credit, so that even supposing the whole of this sum to be appropriated, there will still remain about Rs. 60,000 to be provided from other sources. Looking to the fact that Cocanada is one of the most important ports in the Presidency, judged by the value of its imports and exports, which for the year 1894-95 amounted to Rupees 44,76,534 and Rs. 1,59,17,689, respectively, it is a question whether it would not be advisable to make a contribution for the proposed works from Provincial funds. The

matter will, however, be deferred pending the receipt of the plans and estimates now called for, and the decision of the general question of the enhancement of port dues and the amalgamation of Port funds, now under consideration in the Marine Department.

(True Extract.)

J. H. M.
Under Secretary to Government.

To the Superintending Engineer, I Circle, with enclosures.

- " Examiner, Public Works Accounts.
- " Revenue Department.
- " Marine Department.
- " Financial Department.

Exd. T. K. Narayana Aiyangar.